

I implore the commission to further study the implementation of the proposed Ibiquty "IBOC" transmission. As the commissions rules describe a "RF Mask" stations must operate within, the adaptation of the NRSC 10 KHz low-pass filtering is indication enough that commission recognized the issues with regard to interference from adjacent stations. While its implementation in the daytime can be questioned, the nighttime use of 10 KHz roll-off is beneficial to cleaning up the skywave dilemmas. At the time the "RF Mask" criteria was determined, technical considerations were quite different than they are today. Today's receivers are being built with slightly wider IF bandwidths and higher quality audio circuitry, making this interference more detectable and more important to eliminate or reduce. Further, transmitters have greatly improved. With improved tube and especially solid-state designs, transmitter amplifiers emit less noise/artifacts outside of the intended modulated spectrum. The spirit of the "RF Mask" has not changed, but the criteria which derive the standard have. The shorter duration musical peaks and ultimately lower frequencies of modulation existing in the mask from audio modulation, does not produce near the energy the proposed digital modulation does with its high duty cycle, and higher modulated frequencies.

The Ibiquty scheme of digital transmission is not "On-Channel." This fact is established in that the digital transmission is four new unique emissions, where the Primary data carrier begins 10.3561 KHz and extends to 14.717 KHz above the licensed AM carrier. This emission occurs on both sides of the carrier, meaning it is now affecting two first adjacent stations as a "co-channel" signal. Further, with directional antenna systems, the directionality of the digital signal is not consistent with the carrier of which it was designed and aligned to.

Further study needs to be done with regard to the pattern emanation of the digital signals. As the digital carrier is really an "adjacent" carrier, the antenna tuning and physical antenna placements of current arrays, have been determined based on their analog carrier. The bandwidths of most antenna systems, as it relates to the formation of the pattern, are not conducive to allow true compliance with current rules with regard to the proposed digital transmissions up to 30KHz in bandwidth. Current allocation rules would require that the new carrier be considered a co-channel on the licensed first adjacent channels, and the consideration of protections to the second adjacent signal to the license become the first adjacent of the digital carrier on each side. Thus, this case would find the need to alter current allocation rules to allow for the variances caused by the proposed digital transmissions; or, require that a new proposal be made for digital transmissions with regard to the existing rules, which I believe has been the FCC's desire all along. With this much bandwidth, some antenna systems will be unable to maintain directional control of the energy far removed from what it was designed. Because the directionality of the station cannot be maintained throughout the entire proposed digitally occupied bandwidth, the stations digital coverage will thus differ from that of the analog. The operation of the digital system with regard to the null position and resultant coverage, would then be at variance to the license. This is especially the case with high power stations.

I implore the Commission to determine the true impact of the Ibiquty proposal with regard to all AM transmission and allocation considerations. Further, the Commission should determine whether or not

the Primary digital carrier is regarded as a new co-channel consideration or, that is does not violate the spirit of the RF Mask and is therefore embraced by it. In that the RF Mask was created with less than continuous power in the sidebands, it should be considered how this emission creates a long-duration full occupation of the spectrum and not a short-duration occasional occupation like amplitude modulation.

I further recommend the consideration of utilizing the FM spectrum for digital transmission for AM stations. With regard to the lower power levels, stand-alone configurations, consistent propagation effects, larger amounts of spectrum to work with, the low-power FM channels with the restructuring of digital sub-carriers, make the 88-108 MHz spectrum the better place to allocate digital services.

Ibiquity claims that only one of the two FM sidebands is necessary for the digital transmission, as the other is used to improve robustness in multi-path environments. In consideration of the dual-sideband system, one sideband could initially (or standardized forever) be used on the side of the FM stations, thus, providing the availability of at least one digital allocation per allocated FM in the congested markets like New York, Los Angeles and Chicago. In the suburban and less populated cities, existing allocation rules should allow for more allocation abilities. This would establish a level playing field with regard to the broadcasters technology, in that the quality of the transmission is the same technically and is not uniquely affected by the vast differences in frequency. Further, it provides for lower costs for design and development for receiver manufacturers. It further removes the stigma that AM is of less quality than that FM, which FM stations have capitalized on for years. In being able to set a precise standard, the Commission could then initiate a transition to digital, similar to what has been established for digital television. The analog AM band could then be authorized for use by non-profit local organizations, city and county governments for true localized broadcasting of emergency and non-emergency information. The current low-power TIS transmissions are not able to serve their entire communities in most cases and in others, not even possible to allocate. The FCC would then be able to re-invent the use of the current AM band, in digital or analog.

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